

CLAIMS

1. A composition comprising collagen and a sugar material, wherein a physical form of a mixture of the collagen and the sugar material has been irradiated with ultraviolet radiation, gamma radiation or both.

5 2. The composition of claim 1, wherein the sugar material is selected from a group consisting of glucose, ribose, threose, galactose, fructose, sucrose, lactose, maltose or any combination thereof.

3. The composition of claim 1, wherein the collagen comprises a collagen mixture.

10 4. The composition of claim 1, wherein the physical form comprises a film, sponge, fiber, liquid, gel, paste or powder.

5. The composition of claim 1, wherein the physical form has been irradiated with gamma radiation subsequent to irradiation with UV radiation.

6. A method for preparing a composition comprising:

a) mixing a collagen with a sugar material;

15 b) processing the mixture of step a) into a physical form;

c) exposing the product of step b) to ultraviolet radiation, gamma radiation or both.

7. The method of claim 6, wherein gamma radiation occurs subsequent to UV radiation in the exposing step c).

8. The method of claim 6, wherein the collagen comprises a collagen mixture.

9. The method of claim 6, wherein the physical form comprises a film, sponge, fiber, liquid, gel, paste, or powder.

10. The method of claim 6, wherein the sugar material is selected from a group consisting of glucose, ribose, threose, galactose, fructose, sucrose, lactose, maltose or any combination thereof.

11. A composition for use in the delivery of compounds comprising, a compound; and a sugar - incorporated UV and/or gamma exposed collagen material, wherein the compound is surrounded by the collagen material.

12. The composition of claim 11, wherein the compound comprises anesthetics, analgesics, antibiotics, growth factors or anti-inflammatory agents.

13. A composition for use with medical devices comprising sugar-incorporated UV and/or gamma exposed collagen material.

14. The composition of claim 13, wherein the medical devices comprise grafts, tissue scaffolds, tissue augments, homeostatic agents, or allografts.

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